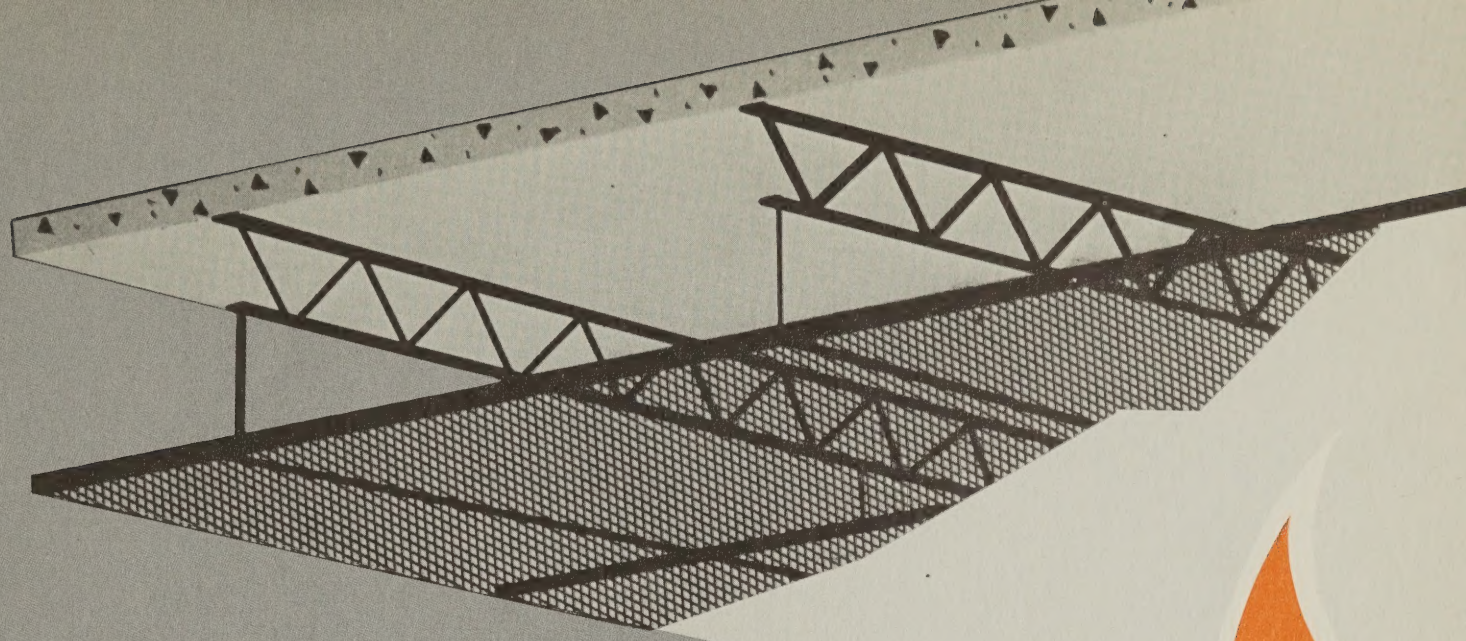


MEMBRANE FIREPROOFING

AIA-File 21-C

UNITED STATES GYPSUM

the greatest name in building

The famous Mid-America office building of the Prudential Insurance Co. in Chicago enjoys the benefits of lightweight Membrane Fireproofing—lath and plaster protection for its structural members.

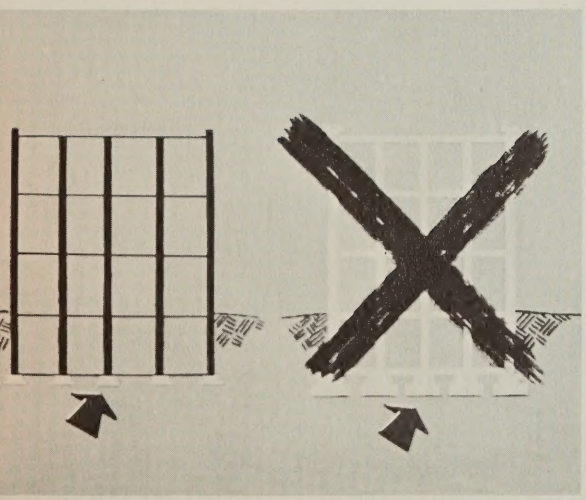
MEMBRANE FIREPROOFING

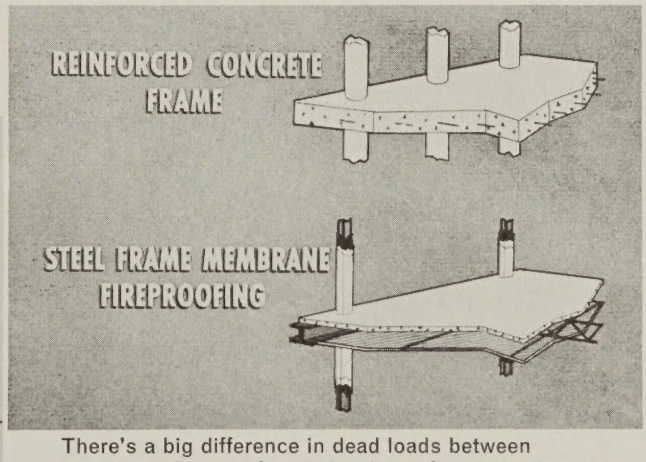
Low-cost, lightweight lath and plaster protection for structural steel members

The larger and higher the building, the more difficult it is to provide adequate fire protection while keeping dead loads and construction costs at a minimum. There is a way to do both—Membrane Fireproofing. This, basically, is a thin and lightweight layer of lath and plaster that is termed a "membrane." This layer provides protection of steel frame buildings from fire damage.

With Membrane Fireproofing, the designer can incorporate lighter structural members, lighter floors and lighter footings than with heavy integral fire protection. With the great weight of integral fire protection in multi-story buildings, a very large part of structural design is needed to support the weight of the fire protection materials.

The savings inherent in Membrane Fireproofing have been shown in cost comparisons submitted for projects in many parts of the country. These show that Membrane Fireproofing can save as much as 90¢ per sq. ft. of protection over some conventional fire protection methods.

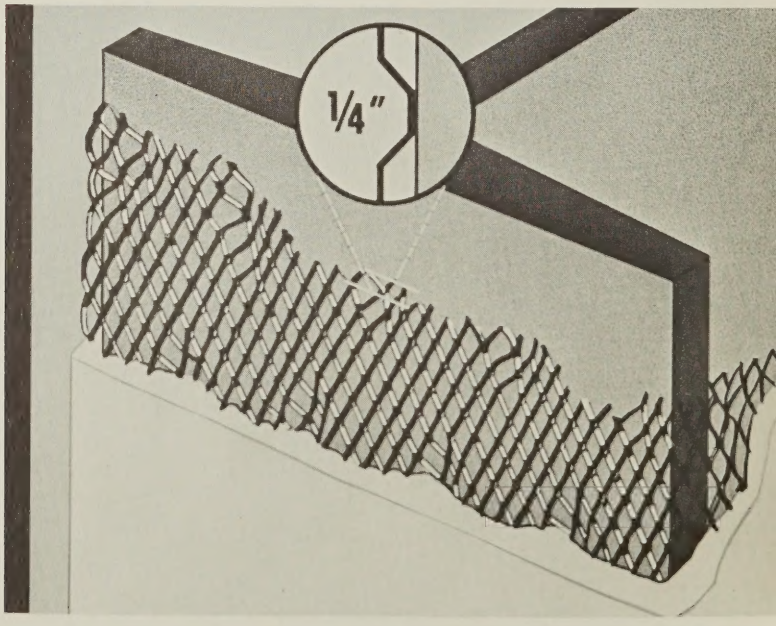




There's a big difference in dead loads between Membrane Fireproofing and ordinary fire protection. Because of its light weight, building design can incorporate long-span joist construction, steel structural members can be lighter, footings smaller. And there will be a better utilization of space and materials.

Fire-resistive ratings of from one to four hours may be obtained with Membrane Fireproofing systems. For one-hour protection, these systems will weigh six pounds per completed square foot of surface area. Four-hour protection systems will weigh up to 11 pounds per sq. ft.

Self-furring, Diamond-Mesh Metal Lath plaster base utilizes a "dimpled" design that holds the lath a quarter-inch away from the column. This allows the plaster to "key" around the lath where it is in direct contact with the column flanges.



Membrane fireproofing with lath and plaster

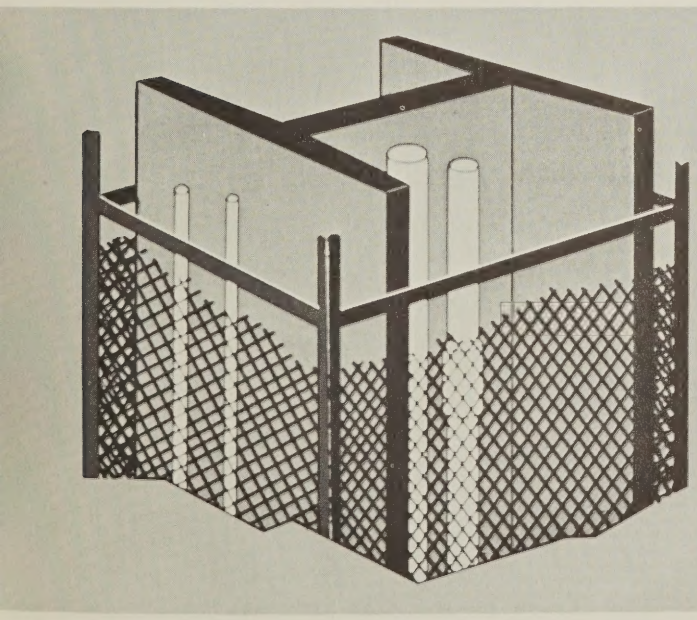
INSTALLS EASILY AT LOWER COST

Steel columns can be protected with either ROCKLATH* or USG® Metal Lath as plaster base. For column fireproofing, a perforated-type ROCKLATH may be used. This is wire-tied to the column, and corner beads are applied to form grounds for the specified fire-resistance rating.

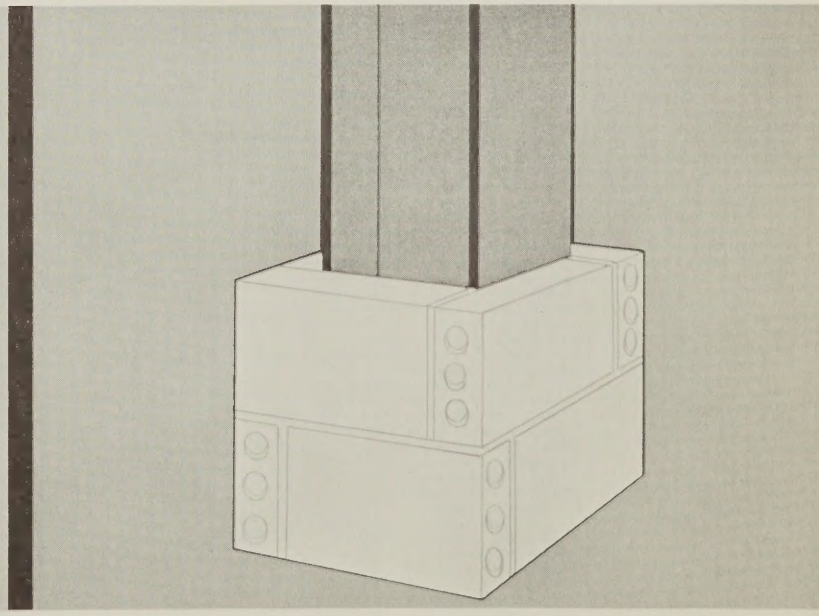
If metal lath is desired, self-furring or regular diamond-mesh may be used, depending on the requirement. Or, if preferred, PYROBAR* three- or four-inch hollow tile in easily-handled units makes a readily-installed system.

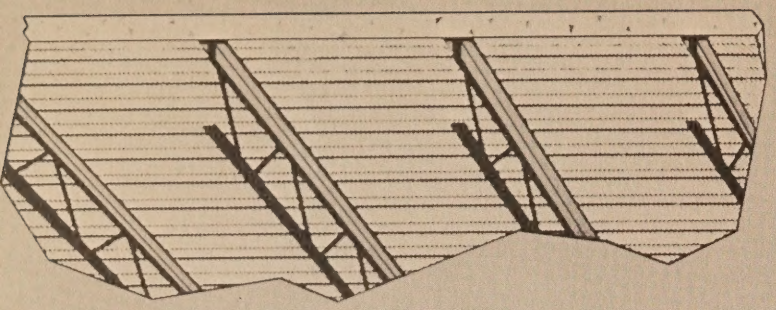
*T.M. Reg. U.S. Pat. Off.

Pipes and conduit can be run in the space formed by plain diamond-mesh metal lath furred from the columns by standard cold-rolled channels.

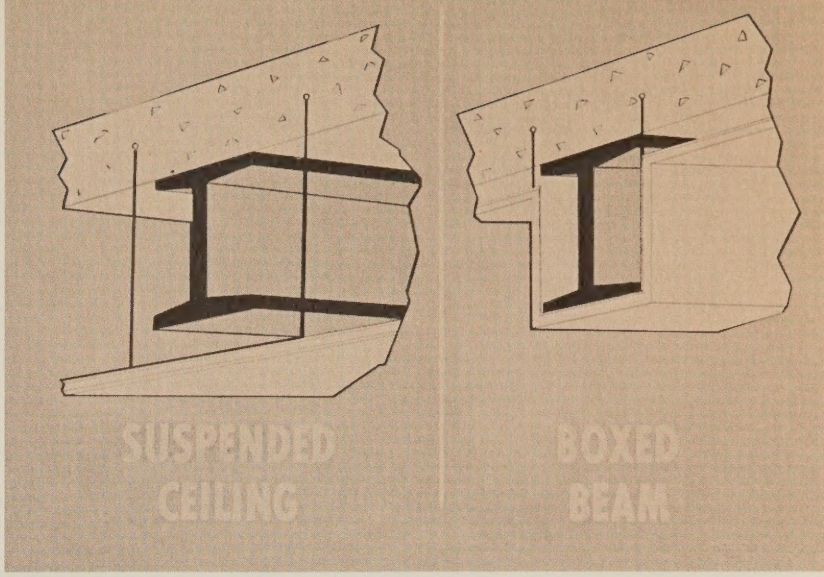


PYROBAR gypsum tile installs quickly, because PYROBAR comes in large, easily-handled units that can be cut to fit around columns. Corners are interlocked in log cabin fashion.





Lighter-weight, closely spaced open-web steel joists can be used to support the floor slab. This construction can be protected by a BRACE-TITE* Ceiling System. With a two-inch floor slab used in this design, a saving in dead load of up to 40 lbs. per sq. ft. is possible.



In addition to protecting joists, you can fireproof primary beams, girders and trusses with lath and gypsum plaster ceiling assemblies. This can be easily done with a suspended lath and plaster ceiling—either BRACE-TITE system or metal lath. Suspended ceiling can be combined with boxed beams where necessary.

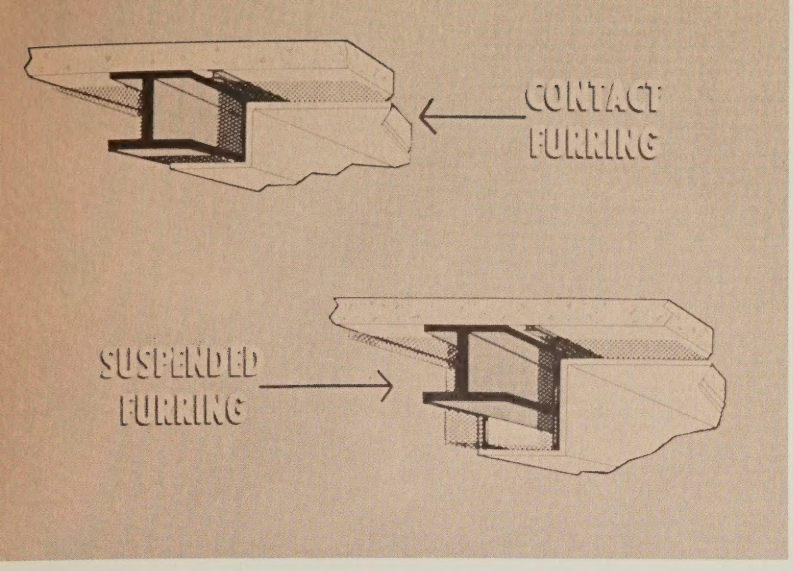
*T.M. Reg. U.S. Pat. Off.

MEMBRANE FIREPROOFING PROVIDES

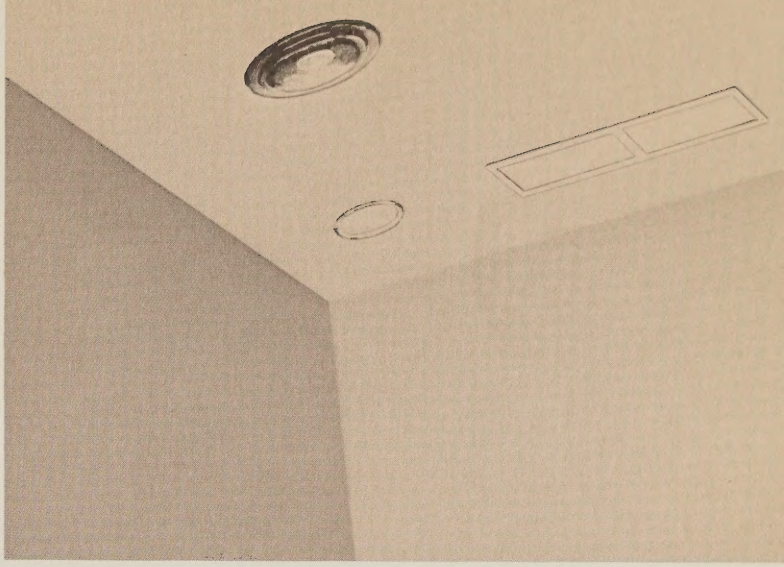
Membrane Fireproofing makes possible a selection of practically any fire rating desired. Simply specify the proper plaster base and the right type and mixture of gypsum plaster to the specified thickness. Two-hour ratings are considered the most economical.

Unlike other fire-protective finishes, smooth, monolithic plaster provides an easily-decorated surface for economical maintenance. Because it is smooth, plaster requires less paint. Plaster can be machine-applied to save installation costs. Openings for air ducts, lighting fixtures and sound systems can be properly protected with membrane fireproofing.

Lower dead weight; faster, easier erection; economy in decoration and maintenance; *maximum* fire protection at low cost—these are the benefits you get with Membrane Fireproofing—lath and plaster protection for structural steel.

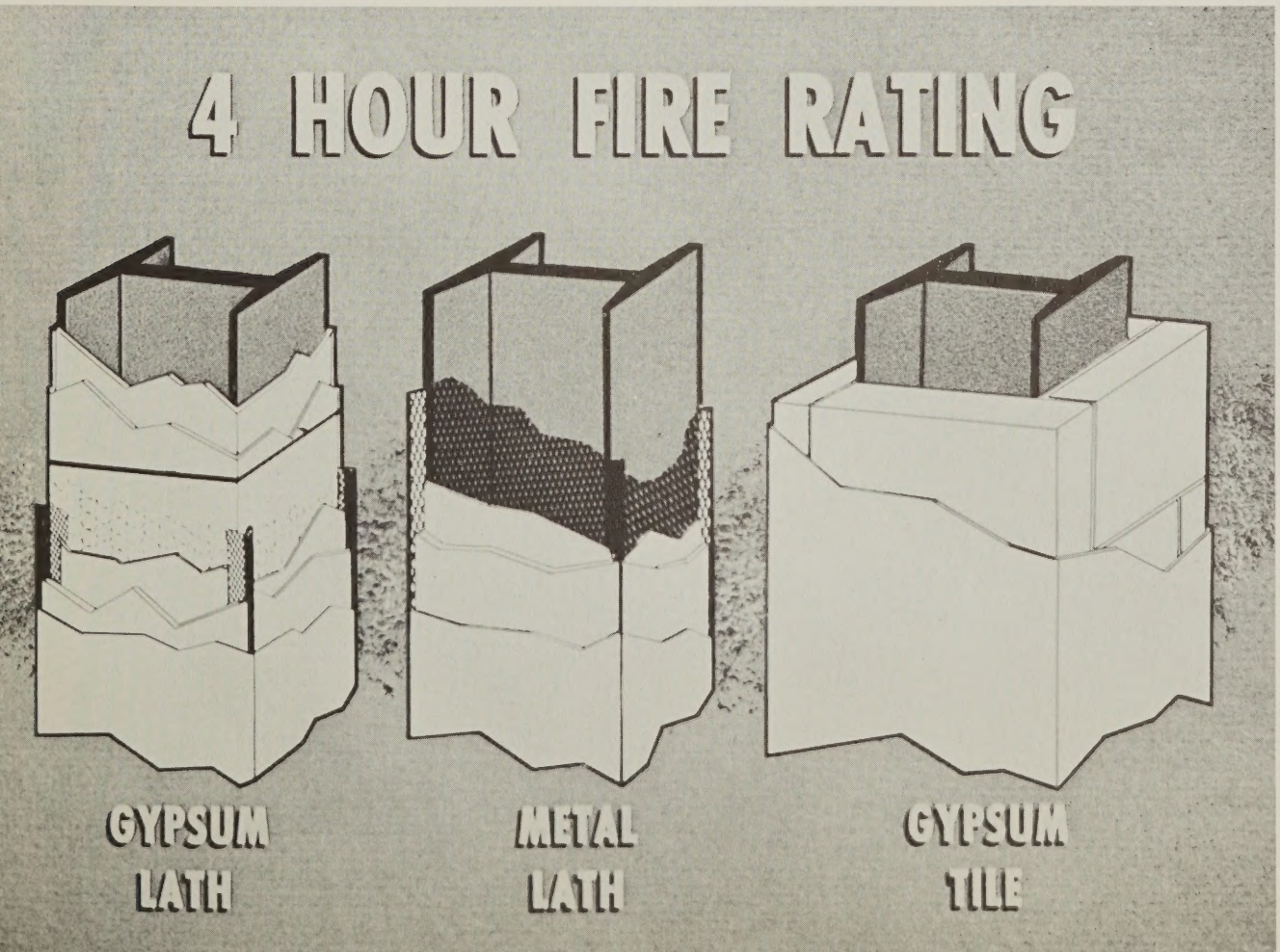


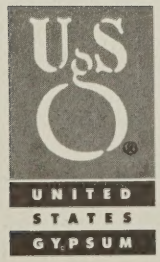
Deep beams and girders can be encased individually with a lath and plaster membrane. This is especially important where steel members support a concrete slab floor.



Place as many openings as needed for air conditioning and lighting fixtures in a Membrane Fireproofed ceiling. The only limitation is that the aggregate of openings should not exceed 100 sq. in. per 100 sq. ft. of ceiling.

THESE ADDED ADVANTAGES





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